

REMARKS

Request for an Examiner's Interview

The Applicants and the Applicant's attorney hereby request a telephone interview with the Examiner in order to expedite the prosecution of the present patent application.

Pending Claims:

Claims 1-11, 13-14 and 23-36 are currently pending in the present application. Claims 15-22 have been cancelled without prejudice. Upon entry of the present Amendment, reconsideration of claims 1-11, 13-14 and 23-36 in light of the amendments and remarks is respectfully requested.

Rejection Under 35 U.S.C. §112

Claims 1-14 and 23-36 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regards as the invention.

Dependent claim 12 was rejected under 35 U.S.C. §112, second paragraph because according to the Office Action, the term "multiprocessor" lacks antecedent basis. Claim 12 has been cancelled.

Independent claim 1 was rejected under 35 U.S.C. §112, second paragraph as being not clearly understood because, according to the Office Action, the word "characterized" is inappropriate. Independent claim 1 has been amended to recite the step of describing a task-level network of behaviors that defines an embedded system in the configurable multiple processor. In addition, independent claim 1 has been amended to clarify that the

configurable multiple processor in line 5 is the same as the configurable multiple processor in line 2 of the claim.

Similarly, independent claim 23 has been amended to recite the step of generating the schedule of tasks based at least in part on a task-level network of behaviors that defines an embedded system. In addition, independent claim 34 has been amended to recite a means for describing a task-level network of behaviors that defines an embedded system. The Applicants submit that the amendments to independent claims 1, 23, and 34 overcome the rejection under 35 U.S.C. §112, second paragraph and respectfully request the rejection be withdrawn.

Rejections under 35 U.S.C. §102

Claims 1-9 and 23-34 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,110,220 to Dave et al. (hereinafter “Dave”). The Office Action dated May 30, 2006 states that Dave teaches the invention as claimed in independent claims 1, 23, and 34.

To anticipate a claim under 35 U.S.C. §102, a single reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught by the reference must be inherently present in the reference. Thus, a claim is anticipated by a reference only if each and every element of the claim is described, either expressly or inherently, in a single prior art reference.

Independent claim 1 has been amended to more clearly define the invention. In particular, independent claim 1 has been amended to recite a method of compiling a high level language to map a plurality of tasks and a plurality of data onto a configurable multiple

processor, distributed memory hardware architecture. In addition, independent claim 1 has been amended to recite the step of generating object code with the allocated plurality of tasks and the allocated plurality of data for the configurable multiple processor, distributed memory hardware architecture.

Regarding the rejection of independent claim 1, the Office Action dated May 30, 2006 states that Dave teaches the invention as claimed in independent claim 1. Dave describes hardware-software co-synthesis of an embedded system using mapping of the specification into hardware and software modules. According to Dave, hardware-software co-synthesis involves various steps such as allocation, scheduling, and performance estimation. The allocation step determines the mapping of tasks to processing elements and inter-task communications to communication links. The scheduling step determines the sequencing of tasks mapped to a processing elements and sequencing of communications on a link. The performance estimation step estimates the finish time of each task and determines the overall quality of the architecture in terms of its dollar cost, ability to meet its real-time constraints, power consumption, and fault tolerance, etc.

Stated more simply, Dave describes a method for designing an architecture for a real-time embedded system. The result of the hardware-software co-synthesis described in Dave is a heterogeneous distributed architecture with different types of processing elements and links. In contrast, independent claim 1 as currently amended, recites a method of compiling a high level language to map a plurality of tasks and a plurality of data onto a configurable multiple processor. The result of the method recited in independent claim 1 of compiling the high level language to map the plurality of tasks and the plurality of data onto the configurable multiple processor, distributed memory hardware architecture is machine executable code for the

configurable multiple processor described in the present specification.

Dave does not describe a method of compiling a program to generate object code for a configurable multiple processor. Therefore, the Applicants submit that independent claim 1 is not anticipated by Dave because each and every element of the independent claim 1, as currently amended, is not described, either expressly or inherently. Thus, the Applicants submit that independent claim 1 is allowable and that dependent claims 2-11 and 13-14 are allowable as depending upon an allowable base claim.

Similarly, independent claim 23 has been amended to recite a method of compiling a high level language to execute a schedule of tasks in a configurable multiple processor, distributed memory architecture. In addition, independent claim 23 has been amended to recite the step of generating object code with the allocated task for the configurable multiple processor, distributed memory hardware architecture. As described herein, Dave does not describe a method of compiling a high level language to execute a schedule of tasks in a configurable multiple processor. Therefore, the Applicants submit that independent claim 23 is not anticipated by a Dave because each and every element of the independent claim 1, as currently amended, is not described, either expressly or inherently. Thus, the Applicants submit that independent claim 1 is allowable and that dependent claims 24-33 are allowable as depending upon an allowable base claim.

Independent claim 34 recites a compiler for mapping a plurality of tasks and data onto a configurable multiple processor, distributed memory architecture. Dave does not describe such a compiler. Instead, Dave describes a co-synthesis algorithm for synthesizing distributed embedded system architectures. In addition, it should be understood that independent claim 34

is drafted in means plus function language under 35 U.S.C. §112 paragraph 6, which requires that the limitations be interpreted in light of the structure disclosed in the specification. Thus, the Applicants submit that independent claim 34 is allowable and that dependent claims 35-36 are allowable as depending upon an allowable base claim.

Rejections under 35 U.S.C. §103(a)

Claims 10-14 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Dave as applied in claims 1 and 34 and in view of U.S. Patent No. 6,075,935 to Ussery et al. (hereinafter “Ussery”). In light of the above arguments made in connection with the rejection under 35 U.S.C. §102(e), the Applicants submit that independent claim 1 is allowable and that dependent claims 10-14, as currently amended, are allowable as depending upon an allowable base claim.

CONCLUSION

Claims 1-11, 13-14 and 23-36 are pending in the present application. Claims 1, 23, and 34-36 have been amended. The Applicants respectfully request reconsideration of the pending claims in light of the amendments and arguments presented in this Amendment and Response.

If, in the Examiner's opinion, a telephonic interview would expedite prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues, and to work with the Examiner toward placing the application in condition for allowance.

Respectfully submitted,

Date: November 29, 2006
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